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ANALYSIS OF CONTRACTS AWARDED CALENDAR YEAR 1976



PREPARED BY THE
STATE OF MONTANA
DEPARTMENT OF HIGHWAYS
PLANNING AND RESEARCH BUREAU
IN COOPERATION WITH THE
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION



CONTRACT ANALYSES

CALENDAR YEAR 1976

FOREWARD

THE ATTACHED TABULATIONS HAVE BEEN PREPARED FROM THE DETAILED ESTIMATE AND CONTRACT AWARD SHEET FOR ALL CONTRACTS AWARDED DURING THE CALENDAR YEAR. A BRIEF EXPLANATION OF EACH OF THE FOLLOWING TABLES IS PROVIDED TO HELP IN THE INTERPRETATION OF THE FIGURES AND TO LESSEN THE POSSIBILITY OF ERRONEOUS CONCLUSIONS.

TABLE 1 - SUMMARY OF NEW AND RECONSTRUCTED ROADWAY ONLY, BY COUNTY AND FINANCIAL DISTRICT.

THIS TABLE IS INTENDED TO INFORM THE USER OF HOW MANY ACTUAL MILES OF ROADWAY WERE LET TO CONTRACT AND THE COSTS INVOLVED. IT INCLUDES ALL ITEMS PERTINENT TO THE SAME SECTION OF ROADWAY EXCEPT STRUCTURES.

TABLE 1A - SUMMARY OF TOTAL AMOUNTS AWARDED BY COUNTY AND FINANCIAL DISTRICT.

THIS TABLE IS A TOTAL OF ALL MILES AND COSTS INVOLVED REGARDLESS OF THE TYPE OF PROJECT. BESIDES ROADWAY COSTS, IT INCLUDES SIGNING, LIGHTING, FENCING AND BRIDGE PROJECTS.

TABLE 2 - SUMMARY OF ROADWAY MILEAGE AWARDED BY SYSTEMS.

THE TABLE INVOLVES THE SAME TYPE OF CONSTRUCTION AS TABLE 1. TABLE 2, HOWEVER, PROVIDES A COST PER MILE FIGURE FOR THE DIFFERENT SYSTEMS AND ALSO PROVIDES A SIMPLE ANALYSIS OF BENEFITS BY INCLUSION OF THE "COST PER ANNUAL VEHICLE MILE".

TABLE 3-3A-3B-3C-3D-3E - SUMMARY OF TYPE OF CONSTRUCTION.

A SEPARATE TABLE HAS BEEN PREPARED FOR EACH FEDERAL AID SYSTEM WITH ALL PROJECTS CLASSIFIED INTO 17 DIFFERENT CATEGORIES. THE PURPOSE OF THIS TABLE IS TO GIVE A GENERAL INDICATION OF WHAT TYPE OF CONSTRUCTION IS RESPONSIBLE FOR THE MAJOR SHARE OF MONIES SPENT. FOR EXAMPLE, NOTE THE BULK OF INTERSTATE MONIES IS SPENT FOR NEW CONSTRUCTION, WHEREAS, THE GREATER SHARE FOR PRIMARY AND SECONDARY IS SPENT FOR RECONSTRUCTION.

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TABLE 4-4A-4B-4C-4D-4E - SUMMARY BY SURFACE TYPE BY SYSTEMS.

THESE TABLES INDICATE THE AVERAGE COST PER MILE OF VARIOUS ITEMS INCLUDED IN A COMPLETED ROADWAY BY TYPE OF SURFACING. CAUTION SHOULD BE EXERCISED IN USING THE AVERAGE COST PER MILE DATA DUE TO THE SMALL SAMPLE INVOLVED FOR SOME COST ITEMS. ANY COST FIGURE APPEARING UNDER STAGE CONSTRUCTION BRIDGES IS INFORMATIONAL ONLY. BRIDGE STAGE CONSTRUCTION COSTS ARE NOT REFLECTED IN THE COST PER MILE OR COST PER SQUARE FOOT OF STRUCTURES IN THIS TABLE.

TABLE 5 - SUMMARY OF ROADWAY MILEAGE AWARDED BY NUMBER OF TRAFFIC LANES.

THIS TABLE DEALS WITH THE SAME MILES AND COSTS INVOLVED IN TABLES 1 AND 2, EXCEPT OFF SYSTEM PROJECTS ARE NOT INCLUDED.

TABLE 6-6A-6B-6C-6D-6E - SUMMARY OF STRUCTURES BY TYPE.

THESE TABLES SUMMARIZE THE NUMBER OF STRUCTURES LET BY TYPE AND ALSO PROVIDE A COST PER SQUARE FOOT, BY TYPE OF STRUCTURE.

TABLE 7 - SUMMARY OF CONSTRUCTED AND NON-CONTRACTED COSTS BY SYSTEM.

THE NON-CONTRACTED FIGURE REFLECTS CONSTRUCTION ENGINEERING COSTS ONLY. CONTINGENCY ITEMS SUCH AS FLAGGING, ROADWAY MATERIALS, TRAINING, ETC., SUPPLIED BY THE STATE, ARE REFLECTED IN THE CONTRACTED COST.

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
PLANNING AND RESEARCH BUREAU

SUMMARY OF ROADWAY MILEAGE ADAPTED
BY COUNTY AND FINANCIAL DISTRICT
DURING CALENDAR YEAR 1976

DURING CALENDAR YEAR 1976

THIS - ALL SUBJECTS ONLY NEW OR OBJECTS PRODUCED OTHERWISE. REFER IN TABLE 1A FOR THE TOTAL AMOUNTS OF CONTRACTS AWARDED

MARCH 08, 1977

TABLE 1

COUNTY AND FINANCIAL DISTRICT	INTERSTATE SYSTEM MILES	SYSTEM COST	PRIMARY SYSTEM MILES	SYSTEM COST	URBAN EXTENSION MILES	EXTENSION COST	SECONDARY SYSTEM MILES	F.A. SYSTEM COST	URBAN COST	OTHER SYSTEMS MILES	SYSTEM COST	ALL SYSTEMS MILES	SYSTEM COST
CLATHEAD FINANCIAL DISTRICT	---	---	---	---	---	---	---	---	---	---	---	---	---
FF #01	---	---	---	---	---	---	---	---	---	---	---	---	---
ALBINE GLACIER HILL	1,442	3,444,288	5,912	2,792,073	1,321	1,437,913	6,508	817,512	---	---	---	6,508	817,512
FF #02	7,427	3,428,288	5,912	2,792,073	1,321	1,437,913	6,508	817,512	---	---	---	5,912	2,792,073
PEALOTE FIDELAND	6,472	4,308,897	---	---	---	---	5,467	1,081,834	---	---	---	11,939	5,400,721
FF #04	6,472	4,308,897	---	---	---	---	5,467	1,081,834	---	---	---	11,939	5,400,721
EEGEGUS GARFIELD	---	---	2,393	1,259,066	.319	361,605	6,469	919,062	---	---	---	9,180	2,557,737
FF #05	---	---	5,433	1,259,021	7,826	2,557,087	.319	361,605	---	---	---	5,433	1,259,021
JUDITH BASIN	---	---	---	---	---	---	---	---	---	---	---	---	---
PERCENNA TERRY	4,300	2,634,422	---	---	---	---	10,700	1,875,835	---	13,841	1,221,722	10,700	1,875,835
FF #06	4,300	2,634,422	---	---	---	---	2,277	877,595	---	---	---	4,300	2,634,422
JEFFERSON LEWIS & CLARK	2,408	1,566,165	4,151	2,873,028	---	---	12,577	2,753,930	---	13,841	1,221,722	10,700	1,875,835
FF #07	2,408	1,566,165	4,151	2,873,028	---	---	---	---	---	---	---	4,300	2,634,422
PERCELL	---	---	---	---	---	---	---	---	---	---	---	---	---
FF #08	584	134,278	---	---	---	---	5,110	1,111,357	---	---	---	5,614	1,245,635
RAVENHEAD	---	---	---	---	---	---	---	---	---	---	---	---	---
FF #09	---	---	---	---	---	---	10,160	1,622,407	---	---	---	10,160	1,622,407
GALLATIN PARK	3,271	4,946,655	---	---	---	---	---	---	---	---	---	3,271	4,946,655
FF #10	3,271	4,946,655	---	---	---	---	---	---	---	---	---	3,271	4,946,655
SUSSEX	6,012	9,941,397	---	---	---	---	---	---	---	---	---	6,012	9,941,397
FF #11	6,012	9,941,397	---	---	---	---	---	---	---	---	---	6,012	9,941,397

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
PLANNING AND RESEARCH BUREAU

SUMMARY OF ROADWAY MILEAGE AWARDED
BY COUNTY AND FINANCIAL DISTRICT
DURING CALENDAR YEAR 1976

THIS TABLE SUMMARIZES ONLY NEW OR RECONSTRUCTED ROADWAY. REFER TO TABLE 1A FOR THE TOTAL AMOUNTS OF CONTRACTS AWARDED
MARCH 08, 1977

TABLE 1

COUNTY AND FINANCIAL DISTRICT	INTERSTATE SYSTEM MILES	COST	PRIMARY SYSTEM MILES	COST	URBAN EXTENSION MILES	COST	SECONDARY SYSTEM MILES	COST	F.A. URBAN MILES	COST	OTHER SYSTEMS MILES	COST	ALL SYSTEMS MILES	COST
YELLOWSTONE FD #11	-----	-----	15.110	2,680,923 5,705,533	-----	-----	-----	-----	337 407,471	407,471	-----	-----	15,496	6,113,004
CUSTER FALLON PERSEUS FD #12	5.709	3,603,128	5.672	1,956,745	-----	-----	10.011	960,415	-----	-----	-----	-----	5.366	1,475,570
TOTAL	32.832	24,616,565	38.680	15,884,470	1.640	1,779,522	70.756	13,266,982	.678	710,960	13.841	1,221,722	158.427	57,480,221

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
 PLANNING AND RESEARCH BUREAU
 SUMMARY OF TOTAL AMOUNTS AWARDED
 BY COUNTY AND FINANCIAL DISTRICT
 DURING CALENDAR YEAR 1976

TABLE 1A

COUNTY AND FINANCIAL DISTRICT	INTERSTATE SYSTEM MILES	INTERSTATE SYSTEM COST	PRIMARY SYSTEM MILES	PRIMARY SYSTEM COST	URBAN EXTENSION MILES	URBAN EXTENSION COST	SECONDARY SYSTEM MILES	SECONDARY SYSTEM COST	MARCH 08, 1977		OTHER SYSTEMS		ALL SYSTEMS MILES	ALL SYSTEMS COST
									EST. URBAN MILES	EST. URBAN COST	MILES	COST		
FF #09	10.661	6,007,320		139,356			10.944	1,827,674			64.635	30,855	21.605	8,005,245
GALLATIN	3.271	5,521,327		132,440							64.635		3.271	5,585,566
DEER	2.741	4,400,447											2.741	4,400,447
SHEEP GRASS	6.012	9,921,774		142,440							64.635		6.012	10,128,853
FF #10														
PIC HOPE			2.188	1,818,042				428,709					2.188	1,818,042
GOLDEN VALLEY			5.983	2,045,199									5.983	2,045,199
MUSSELSHELL			6.548	2,445,131									6.548	2,445,131
FF #11			15.119	6,282,998				428,709	337	883,762			15.456	7,595,469
CUSTER			5.366	2,005,654			10.011	1,144,077					5.366	2,005,654
FULLON	5.102	4,428,084	306	744,020									10.011	1,144,077
POSEIDON	5.709	4,285,084	5.672	2,733,744			10.011	1,144,077					6.015	5,033,174
FF #12													21.392	8,182,905
TOTAL	66.394	51,258,317	46.382	23,647,275	1.640	2,273,091	78.008	14,684,693	678	1,542,958	13,841	1,221,722	206.933	94,628,946

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
PLANNING AND RESEARCH BUREAU

SUMMARY OF ROADWAY MILEAGE AWARDED BY SYSTEMS
DURING CALENDAR YEAR 1976
THIS TABLE SUMMARIZES ONLY NEW OR RECONSTRUCTED ROADWAYS
TABLE 2

MARCH 08, 1977

SYSTEM	MILEAGE	TOTAL COST	COST PER MILE	ANNUAL VEHICLE MILES	COST PER ANNUAL VEHICLE MILE
RURAL					
INTERSTATE RURAL	32.832	24,616,565	749,773		00.000
PRIMARY RURAL	38.680	15,884,470	410,663		00.000
SECONDARY RURAL	70.756	13,266,982	187,503		00.000
OTHER	13.841	1,221,722	88,268		00.000
SUBTOTAL RURAL	156.109	54,989,739	352,252		00.000
URBAN					
INTERSTATE URBAN					00.000
URBAN EXTENSION	1.640	1,779,522	1,085,074		00.000
FA URBAN	.678	710,960	1,048,613		00.000
OTHER					00.000
SUBTOTAL URBAN	2.318	2,490,482	1,074,409		00.000
GRAND TOTAL	158.427	57,480,221	362,818		00.000

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
PLANNING AND RESEARCH BUREAU

SUMMARY OF TYPE OF CONSTRUCTION
DURING CALENDAR YEAR 1976
BY SYSTEM
TABLE 3

MARCH 08, 1977

TYPE OF CONSTRUCTION	INTERSTATE	
	MILES	COST
ALL CONSTRUCTION		
NEW CONSTRUCTION-----	24.901	21,053,999
RECONSTRUCTION-----		
ADD TWO LANES-----	7.931	3,562,566
MAJOR STRUCTURES-----		8,240,684
RESURFACE-----		
STAGE CONSTRUCTION, ROADWAY-----	33.552	15,488,129
TRAFFIC CONTROL-----		176,494
REST AREA-----		
WIDENING ROADWAY-----		
STAGE CONSTRUCTION, MAJOR STRUCTURES-----		
SAFETY-----		1,592,585
LANDSCAPING-----		
FENCING-----		
PMS OVERLAY AND SEAL & COVER-----		183,168
WEIGH STN & SCENIC OVERLOOK-----		
OTHER-----		631,037
BRIDGE REPAIR-----		329,655
TOTAL		51,258,317

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
PLANNING AND RESEARCH BUREAU

SUMMARY OF TYPE OF CONSTRUCTION
DURING CALENDAR YEAR 1976
BY SYSTEM
TABLE 3

MARCH 08, 1977

TYPE OF CONSTRUCTION	<u>INTERSTATE</u>	
	MILES	COST
RURAL		
NEW CONSTRUCTION-----	24.901	21,053,999
RECONSTRUCTION-----		
ADD TWO LANES-----	7.931	3,562,566
MAJOR STRUCTURES-----		8,240,684
RESURFACE-----		
STAGE CONSTRUCTION, ROADWAY-----	33.552	15,488,129
TRAFFIC CONTROL-----		176,494
REST AREA-----		
WIDENING ROADWAY-----		
STAGE CONSTRUCTION, MAJOR STRUCTURES-----		
SAFETY-----		1,592,585
LANDSCAPING-----		
FENCING-----		
PMS OVERLAY AND SEAL & COVER-----		183,168
WEIGH STN & SCENIC OVERLOOK-----		
OTHER-----		631,037
BRIDGE REPAIR-----		
TOTAL		50,928,662

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
PLANNING AND RESEARCH BUREAU

SUMMARY OF TYPE OF CONSTRUCTION
DURING CALENDAR YEAR 1976
BY SYSTEM

TABLE 3

MARCH 08, 1977

TYPE OF CONSTRUCTION	-----INTERSTATE-----	
	MILES	COST
URBAN		
NEW CONSTRUCTION-----		
RECONSTRUCTION-----		
ADD TWO LANES-----		
MAJOR STRUCTURES-----		
RESURFACE-----		
STAGE CONSTRUCTION, ROADWAY-----		
TRAFFIC CONTROL-----		
REST AREA-----		
WIDENING ROADWAY-----		
STAGE CONSTRUCTION, MAJOR STRUCTURES-----		
SAFETY-----		
LANDSCAPING-----		
FENCING-----		
PMS OVERLAY AND SEAL & COVER-----		
WEIGH STN & SCENIC OVERLOOK-----		
OTHER-----		
BRIDGE REPAIR-----		329,655
TOTAL		329,655

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
PLANNING AND RESEARCH BUREAU

SUMMARY OF TYPE OF CONSTRUCTION
DURING CALENDAR YEAR 1976
BY SYSTEM
TABLE 3A

MARCH 08, 1977

TYPE OF CONSTRUCTION	PRIMARY RURAL	
	MILES	COST
RURAL		
NEW CONSTRUCTION-----	4.151	2,873,028
RECONSTRUCTION-----	34.529	13,011,442
ADD TWO LANES-----		
MAJOR STRUCTURES-----		1,024,196
RESURFACE-----	7.702	592,662
STAGE CONSTRUCTION, ROADWAY-----		
TRAFFIC CONTROL-----		66,285
REST AREA-----		
WIDENING ROADWAY-----		
STAGE CONSTRUCTION, MAJOR STRUCTURES-----		
SAFETY-----		640,962
LANDSCAPING-----		
FENCING-----		
PMS OVERLAY AND SEAL & COVER-----		3,332,902
WEIGH STN & SCENIC OVERLOOK-----		
OTHER-----		2,105,798
BRIDGE REPAIR-----		
TOTAL		23,647,275

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
PLANNING AND RESEARCH BUREAU

SUMMARY OF TYPE OF CONSTRUCTION
DURING CALENDAR YEAR 1976
BY SYSTEM
TABLE 3B

MARCH 08, 1977

TYPE OF CONSTRUCTION	URBAN EXTENSION	
	MILES	COST
URBAN		
NEW CONSTRUCTION-----		
RECONSTRUCTION-----	1.640	1,779,522
ADD TWO LANES-----		
MAJOR STRUCTURES-----		
RESURFACE-----		
STAGE CONSTRUCTION, ROADWAY-----		
TRAFFIC CONTROL-----		207,013
REST AREA-----		
WIDENING ROADWAY-----		283,995
STAGE CONSTRUCTION, MAJOR STRUCTURES-----		
SAFETY-----		3,451
LANDSCAPING-----		
FENCING-----		
PMS OVERLAY AND SEAL & COVER-----		
WEIGH STN & SCENIC OVERLOOK-----		
OTHER-----		
BRIDGE REPAIR-----		
TOTAL		2,273,981

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
PLANNING AND RESEARCH BUREAU

SUMMARY OF TYPE OF CONSTRUCTION
DURING CALENDAR YEAR 1976
BY SYSTEM
TABLE 3C

MARCH 08, 1977

TYPE OF CONSTRUCTION	---SECONDARY RURAL---	
	MILES	COST
RURAL		
NEW CONSTRUCTION-----		
RECONSTRUCTION-----	70.756	13,266,982
ADD TWO LANES-----		
MAJOR STRUCTURES-----	6.468	370,357
RESURFACE-----		
STAGE CONSTRUCTION, ROADWAY-----	.784	190,552
TRAFFIC CONTROL-----		26,493
REST AREA-----		
WIDENING ROADWAY-----		
STAGE CONSTRUCTION, MAJOR STRUCTURES-----		
SAFETY-----		
LANDSCAPING-----		
FENCING-----		
PMS OVERLAY AND SEAL & COVER-----		772,119
WEIGH STN & SCENIC OVERLOOK-----		
OTHER-----		
BRIDGE REPAIR-----		58,190
TOTAL		14,684,693

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
PLANNING AND RESEARCH BUREAU

SUMMARY OF TYPE OF CONSTRUCTION
DURING CALENDAR YEAR 1976
BY SYSTEM
TABLE 3D

MARCH 08, 1977

TYPE OF CONSTRUCTION	E. A. URBAN	
	MILES	COST
URBAN		
NEW CONSTRUCTION-----		
RECONSTRUCTION-----	.678	710,960
ADD TWO LANES-----		
MAJOR STRUCTURES-----		135,745
RESURFACE-----		
STAGE CONSTRUCTION, ROADWAY-----		
TRAFFIC CONTROL-----		484,217
REST AREA-----		
WIDENING ROADWAY-----		
STAGE CONSTRUCTION, MAJOR STRUCTURES-----		
SAFETY-----		
LANDSCAPING-----		
FENCING-----		
PMS OVERLAY AND SEAL & COVER-----		
WEIGH STN & SCENIC OVERLOOK-----		
OTHER-----		212,036
BRIDGE REPAIR-----		
TOTAL		1,542,958

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
PLANNING AND RESEARCH BUREAU

SUMMARY OF TYPE OF CONSTRUCTION
DURING CALENDAR YEAR 1976
BY SYSTEM
TABLE 3E

MARCH 08, 1977

TYPE OF CONSTRUCTION	OTHER	
	MILES	COST
RURAL		
NEW CONSTRUCTION-----		
RECONSTRUCTION-----	13.841	1,221,722
ADD TWO LANES-----		
MAJOR STRUCTURES-----		
RESURFACE-----		
STAGE CONSTRUCTION, ROADWAY-----		
TRAFFIC CONTROL-----		
REST AREA-----		
WIDENING ROADWAY-----		
STAGE CONSTRUCTION, MAJOR STRUCTURES-----		
SAFETY-----		
LANDSCAPING-----		
FENCING-----		
PMS OVERLAY AND SEAL & COVER-----		
WEIGH STN & SCENIC OVERLOOK-----		
OTHER-----		
BRIDGE REPAIR-----		
TOTAL		1,221,722

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
PLANNING AND RESEARCH BUREAU

SUMMARY BY SURFACE TYPE
DURING CALENDAR YEAR 1976

TABLE 4

INTERSTATE SYSTEM

MARCH 8, 1977

COST ITEM		STAGE CONSTR. (GRAVEL)	SURFACE TYPE BITUM. MIX	CONCRETE	MISC. ITEMS
GRADING	MILES	18.780	47.604		
	COST	5,134,640	14,192,170		7,557
	COST/MILE	273,410	298,129		
DRAINAGE	MILES	18.780	47.604		
	COST	797,546	2,189,213		294,849
	COST/MILE	42,467	45,988		
FOUNDATION	MILES	18.780	47.604		
	COST	140,661	5,421,404		18,743
	COST/MILE	7,489	113,885		
SURFACING	MILES	18.780	47.604		
	COST	166,449	7,252,132		101,336
	COST/MILE	8,863	152,342		
ROSIDE DEVEL.	MILES		13.280		
	COST		24,426		
	COST/MILE		1,839		
EROSION CTL.	MILES	18.780	47.604		
	COST	456,239	1,500,258		10,004
	COST/MILE	24,293	31,515		
TRAFFIC CTL.	MILES	18.780	47.604		
	COST	116,837	1,441,539		981,733
	COST/MILE	6,221	30,281		
FENCING	MILES	18.394	47.604		
	COST	187,327	754,696		9,640
	COST/MILE	10,184	15,853		
MISC.	MILES	18.780	47.604		
	COST	319,648	1,398,386		100,200
	COST/MILE	17,020	29,375		
BRIDGES	SQ. FEET				273,801
	COST				8,240,684
	COST/SQ. FOOT				30.097
ALL ITEMS	MILES	18.780	47.604		
	COST	7,319,347	34,174,224		9,764,746
	COST/MILE	389,741	717,885		

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
PLANNING AND RESEARCH BUREAU

SUMMARY BY SURFACE TYPE
DURING CALENDAR YEAR 1976

TABLE 4A

PRIMARY SYSTEM

MARCH 8, 1977

COST ITEM		GRAVEL	SURFACE TYPE BITUM. MIX	CONCRETE	MISC. ITEMS
GRADING	MILES		46.382		
	COST		5,337,462		21,828
	COST/MILE		115,076		
DRAINAGE	MILES		46.382		
	COST		1,846,899		5,413
	COST/MILE		39,819		
FOUNDATION	MILES		46.382		
	COST		2,778,609		32,111
	COST/MILE		59,907		
SURFACING	MILES		46.382		
	COST		7,693,397		105,154
	COST/MILE		165,870		
RDSIDE DEVEL.	MILES		14.028		
	COST		121,836		3,675
	COST/MILE		8,685		
EROSION CTL.	MILES		46.382		
	COST		1,790,826		7,786
	COST/MILE		38,610		
TRAFFIC CTL.	MILES		46.382		
	COST		1,054,587		139,181
	COST/MILE		22,736		
FENCING	MILES		38.139		
	COST		452,894		2,715
	COST/MILE		11,874		
MISC.	MILES		46.382		
	COST		1,202,920		25,786
	COST/MILE		25,935		
BRIDGES	SQ. FEET				23,604
	COST				1,024,196
	COST/SQ. FOOT				43.390
ALL ITEMS	MILES		46.382		
	COST		22,279,430		1,367,845
	COST/MILE		480,346		

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
PLANNING AND RESEARCH BUREAU

SUMMARY BY SURFACE TYPE
DURING CALENDAR YEAR 1976

TABLE 48

URBAN EXTENSION

MARCH 8, 1977

COST ITEM	SURFACE TYPE			MISC. ITEMS
	GRAVEL	BITUM. MIX	CONCRETE	
GRADING				
MILES		1.640		
COST		298,108		
COST/MILE		181,773		
DRAINAGE				
MILES		1.640		
COST		411,339		
COST/MILE		250,816		
FOUNDATION				
MILES		1.640		
COST		412,693		
COST/MILE		251,642		
SURFACING				
MILES		1.640		
COST		402,540		
COST/MILE		245,451		
RDSIDE DEVEL.				
MILES		1.640		
COST		89,809		
COST/MILE		54,761		
EROSION CTL.				
MILES		1.640		
COST		45,923		
COST/MILE		28,001		
TRAFFIC CTL.				
MILES		1.640		
COST		317,537		75,700
COST/MILE		193,620		
FENCING				
MILES		.319		
COST		1,344		
COST/MILE		4,213		
MAINT. STKPL.				
MILES		1.321		
COST		90,000		
COST/MILE		68,130		
MISC.				
MILES		.319		
COST		125,745		3,243
COST/MILE		394,184		
BRIDGES				
SQ. FEET				
COST				
COST/SQ. FOOT				
ALL ITEMS				
MILES		1.640		
COST		2,195,038		78,943
COST/MILE		1,338,437		

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
PLANNING AND RESEARCH BUREAU

SUMMARY BY SURFACE TYPE
DURING CALENDAR YEAR 1976
SECONDARY SYSTEM

TABLE 4C

MARCH 8, 1977

COST ITEM		SURFACE TYPE		MISC. ITEMS
		GRAVEL	BITUM. MIX	
GRADING	MILES	10.795	60.745	
	COST	419,115	3,728,532	264
	COST/MILE	38,824	61,380	
DRAINAGE	MILES	10.795	60.745	
	COST	181,132	1,429,912	53,530
	COST/MILE	16,779	23,539	
FOUNDATION	MILES	.784	55.635	
	COST	1,685	1,970,622	235
	COST/MILE	2,149	35,420	
SURFACING	MILES	10.795	60.745	
	COST	273,176	3,863,002	100
	COST/MILE	25,305	63,593	
RDSIDE DEVEL.	MILES		2.277	
	COST		39,638	820
	COST/MILE		17,407	
EROSION CTL.	MILES	10.795	60.745	
	COST	97,092	550,083	
	COST/MILE	8,994	9,055	
TRAFFIC CTL.	MILES	10.795	60.745	
	COST	19,818	311,609	25,624
	COST/MILE	1,835	5,129	
FENCING	MILES	10.795	60.745	
	COST	107,349	410,726	
	COST/MILE	9,944	6,761	
MISC.	MILES	10.795	60.745	
	COST	51,600	774,562	4,110
	COST/MILE	4,779	12,751	
BRIDGES	SQ. FEET			10,176
	COST			370,357
	COST/SQ. FOOT			36.395
ALL ITEMS	MILES	10.795	60.745	6.468
	COST	1,150,967	13,078,686	455,040
	COST/MILE	106,620	215,304	70,352

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
PLANNING AND RESEARCH BUREAU

SUMMARY BY SURFACE TYPE
DURING CALENDAR YEAR 1976
F.A. URBAN

TABLE 4D

MARCH 8, 1977

COST ITEM	SURFACE TYPE		MISC. ITEMS
	GRAVEL	BITUM. MIX	
GRADING	MILES	.678	
	COST	91,727	12,868
	COST/MILE	135,290	
DRAINAGE	MILES	.678	
	COST	319,339	6,581
	COST/MILE	471,001	
FOUNDATION	MILES	.678	
	COST	141,153	7,974
	COST/MILE	208,190	
SURFACING	MILES	.678	
	COST	109,282	10,379
	COST/MILE	161,182	
RDSIDE DEVEL.	MILES	.337	
	COST	23,780	725
	COST/MILE	70,563	
EROSION CTL.	MILES	.678	
	COST	76,005	1,353
	COST/MILE	112,101	
TRAFFIC CTL.	MILES	.678	
	COST	99,637	416,821
	COST/MILE	146,957	
FENCING	MILES	.405	
	COST	4,406	7,958
	COST/MILE	10,879	
MISC.	MILES	.678	
	COST	57,667	19,558
	COST/MILE	85,054	
BRIDGES	SQ. FEET		2,424
	COST		135,745
	COST/SQ. FOOT		56.000
ALL ITEMS	MILES	.678	
	COST	922,996	619,962
	COST/MILE	1,361,351	

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
PLANNING AND RESEARCH BUREAU

SUMMARY BY SURFACE TYPE
DURING CALENDAR YEAR 1976
OTHER

MARCH 8, 1977

TABLE 4E

COST ITEM		GRAVEL	SURFACE TYPE BITUM. MIX	CONCRETE	MISC. ITEMS
GRADING	MILES		13.841		
	COST		155,834		
	COST/MILE		11,258		
DRAINAGE	MILES		13.841		
	COST		43,790		
	COST/MILE		3,163		
FOUNDATION	MILES		13.841		
	COST		284,980		
	COST/MILE		20,589		
SURFACING	MILES		13.841		
	COST		571,018		
	COST/MILE		41,255		
EROSION CTL.	MILES		13.841		
	COST		33,916		
	COST/MILE		2,450		
TRAFFIC CTL.	MILES		13.841		
	COST		32,784		
	COST/MILE		2,368		
FENCING	MILES		13.841		
	COST		22,600		
	COST/MILE		1,632		
MISC.	MILES		13.841		
	COST		76,800		
	COST/MILE		5,548		
BRIDGES	SQ. FEET				
	COST				
	COST/SQ. FOOT				
ALL ITEMS	MILES		13.841		
	COST		1,221,722		
	COST/MILE		88,268		

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
PLANNING AND RESEARCH BUREAU

SUMMARY OF ROADWAY MILEAGE AWARDED BY NUMBER OF TRAFFIC LANES
DURING CALENDAR YEAR 1976

TABLE 5

MARCH 8, 1977

NO. LANES	MILES	COST	COST/MILE
INTERSTATE SYSTEM			
2	.504	134,278	266,424
4	32.328	24,482,287	757,309
TOTAL	32.832	24,616,565	749,773
PRIMARY SYSTEM			
2	37.598	15,066,708	400,731
4	1.082	817,762	755,787
TOTAL	38.680	15,884,470	410,663
URBAN EXTENSION			
2			
4	1.640	1,779,522	1,085,074
TOTAL	1.640	1,779,522	1,085,074
SECONDARY SYSTEM			
2	70.756	13,266,982	187,503
4			
TOTAL	70.756	13,266,982	187,503
F. A. URBAN			
2	.405	423,179	1,044,886
4	.273	287,781	1,054,142
TOTAL	.678	710,960	1,048,613
ALL SYSTEMS			
2	109.263	28,891,147	264,418
4	35.323	27,367,352	774,774
TOTAL	144.586	56,258,499	389,100

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
PLANNING AND RESEARCH BUREAU
SUMMARY OF STRUCTURES BY TYPE
DURING CALENDAR YEAR 1976

TABLE 6

INTERSTATE SYSTEM

MARCH

08, 1977

BRIDGE TYPE	CODE	NO. OF STRUCTURES	SQ. FT. STRUCTURES	TOTAL COST	COST / SQ. FOOT
CONC. SLAB	X220	3	15,192	559,219	36.810
STEEL GIRD.	X731	1	19,456	366,830	18.854
COMP. S/C GIRD.	X171	1	32,676	1,217,108	37.247
CONC. PRESTR. GIRD.	X081	2	37,812	1,175,607	31.090
	X181	2	33,306	1,043,087	31.318
	X281	5	46,708	1,304,070	27.919
	X481	1	18,858	618,047	32.773
	X781	6	69,793	1,956,716	28.035
TOTALS: INCLUDES STAGE		21		8,240,684	
TOTALS: EXCLUDES STAGE		21	273,801	8,240,684	30.097
TOTAL BRIDGE STAGE					

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
 PLANNING AND RESEARCH BUREAU
 SUMMARY OF STRUCTURES BY TYPE
 DURING CALENDAR YEAR 1976

TABLE 6A

PRIMARY SYSTEM

MARCH 08, 1977

BRIDGE TYPE	CODE	NO. OF STRUCTURES	SQ. FT. STRUCTURES	TOTAL COST	COST / SQ. FOOT
CONC. PRESTR. GIRD.	X081	4	18,148	757,285	41,728
	X181	1	10,252	266,911	26.035
TOTALS: INCLUDES STAGE		5		1,024,196	
TOTALS: EXCLUDES STAGE		5	28,400	1,024,196	36,063
TOTAL BRIDGE STAGE					

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
 PLANNING AND RESEARCH BUREAU
 SUMMARY OF STRUCTURES BY TYPE
 DURING CALENDAR YEAR 1976

TABLE 6C

SECONDARY SYSTEM

MARCH 08, 1977

BRIDGE TYPE	CODE	NO. OF STRUCTURES	SQ. FT. STRUCTURES	TOTAL COST	COST / SQ. FOOT
CONC. PRESTR. GIRD.	X081	3	10,176	370,357	36.395
TOTALS: INCLUDES STAGE		3		370,357	
TOTALS: EXCLUDES STAGE		3	10,176	370,357	36.395
TOTAL BRIDGE STAGE					

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
 PLANNING AND RESEARCH BUREAU
 SUMMARY OF STRUCTURES BY TYPE
 DURING CALENDAR YEAR 1976

TABLE 6D

F.A. URBAN SYSTEM

MARCH 08, 1977

BRIDGE TYPE	CODE	NO. OF STRUCTURES	SQ. FT. STRUCTURES	TOTAL COST	COST / SQ. FOOT
CONC. PRESTR. GIRD.	X781	1	2,424	135,745	56.000
TOTALS: INCLUDES STAGE		1		135,745	
TOTALS: EXCLUDES STAGE		1	2,424	135,745	56.000
TOTAL BRIDGE STAGE					

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
PLANNING AND RESEARCH BUREAU

SUMMARY OF CONTRACTED AND
NON-CONTRACTED COSTS BY SYSTEM
DURING CALENDAR YEAR 1976

TABLE 7

MARCH 08, 1977

SYSTEM	CONTRACTED COST	NON CONTRACTED COST	TOTAL
INTERSTATE	\$ 51,258,317	\$ 5,142,621	\$ 56,400,938
PRIMARY	\$ 23,647,275	\$ 3,547,063	\$ 27,194,338
URBAN EXTENSION	\$ 2,273,981	\$ 327,620	\$ 2,601,601
SECONDARY	\$ 14,684,693	\$ 2,202,689	\$ 16,887,382
F.A. URBAN	\$ 1,542,958	\$ 231,432	\$ 1,774,390
OTHER	\$ 1,221,722	\$ 122,172	\$ 1,343,894
TOTAL	\$ 94,628,946	\$ 11,573,597	\$106,202,543

